



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,271	01/25/2001	Tsukasa Yajima	PNET.009D	3802

7590 02/22/2002
JONES & VOLENTINE, L.L.P.
Suite 150
12200 Sunrise Valley Drive
Reston, VA 20191

EXAMINER

MAI, ANH D

ART UNIT PAPER NUMBER

2814

DATE MAILED: 02/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,271

Applicant(s)

YAJIMA, TSUKASA

Examiner

Anh D. Mai

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 2814

DETAILED ACTION

1. Amendment B, received January 03, 2002 is entered as Paper No. 4. Claims 4, 5 and 10 are canceled. Claims 6-9 and 11-15 are pending, in which claims 6-9 are amended and claims 11-15 are new.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Seeds '211.

Seeds teaches a semiconductor device as claimed including:

a gate (17a) formed on an active region of a substrate (11);

a field oxide (16a) formed on the substrate adjacent the active region;

a protective layer (17d) formed on the field oxide (16a), the protective layer being a material different than the field oxide;

an insulating layer (20) formed on the substrate including the gate (17a), the field oxide (16a) and the protective layer (17d);

a contact hole (20a) formed through the insulating layer (20); and

Art Unit: 2814

a connecting wire (21) coupled to the gate through the contact hole, the protective layer being formed on the field oxide only. (See Fig. 1h).

With respect to claim 12, the protective layer (17a) of Seeds is a polysilicon layer.

With respect to claim 13, the gate of Seeds is a MOSFET gate.

With respect to claim 14, the gate of Seeds further comprises side walls formed on side surface of the gate (17a), the side walls being covered by the insulating layer (20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seeds '211 in view of Tomijima et al (JP-02-260639).

Seeds teaches a semiconductor device substantially similar as claimed including:

a gate (17a) formed on an active region of a substrate (11);

a field oxide (16a) formed on the substrate adjacent the gate;

side walls formed on side surfaces of the gate (17a);

a protective layer (17d) formed on the field oxide (16a), the protective layer being a material different than the field oxide;

Art Unit: 2814

an insulating layer (20) formed on the substrate including the gate (17a), the side walls, the field oxide (16a) and the protective layer (17d);

a contact hole (20a) formed through the insulating layer (20); and

a connecting wire (21) coupled to the gate through the contact hole, the protective layer being formed on the field oxide only. (See Fig. 1h).

Thus, Seeds is shown to teach all the features of the claim with the exception of the formation of two gates instead of one.

However, Tomijima teaches that it is well known in the art to form more than one gate structure on the semiconductor substrate (1), wherein two gate (12) are formed sandwiching the field oxide (16). (See Fig. 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to form a second gate structure on the other side of the field oxide (16a) of Seeds as taught by Tomijima since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Furthermore, with the current trend in the ULSI, more than just two gates are formed on a semiconductor substrate, in addition to the gate structure of Seeds are the MOS transistors.

With respect to claim 7, the protective layer (17a) of Seeds is a polysilicon layer.

With respect to claim 8, the protective layer (17a) of Seeds is formed on the field oxide (16a) only.

With respect to claim 9, the gates of Seeds are a MOSFET gate.

Art Unit: 2814

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh D. Mai whose telephone number is (703) 305-0575. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A.M
February 11, 2002



OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Art Unit: 2814

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seeds '211 as applied to claim 11 above, and further in view of Tomijima '639.

Seeds is shown to teach all the features of the claim with the exception of explicitly show an additional gate structure (17a) formed on the other side of the field oxide (16a).

However, Tomijima teaches that it is well known in the art to form more than one gate structure on the semiconductor substrate (1), wherein two gates (12) are formed sandwiching the field oxide (16). (See Fig. 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to form a second gate structure on the other side of the field oxide (16a) of Seeds as taught by Tomijima since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Furthermore, with the current trend in the ULSI, more than just two gates are formed on a semiconductor substrate, in addition to the gate structure of Seeds are the MOS transistors.

Response to Arguments

5. Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).